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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	Per-Olof Davidsson
Serial No. 10/730,581	Filing Date: December 8, 2003
Title of Application:	A Device For Transmitting Torque Between Two Rotatable, Coaxial Shaft Members
Confirmation No. 2101	Art Unit: 3681
Examiner	David D. Le

Mail Stop Appeal Brief – Patents
Commissioner for Patents
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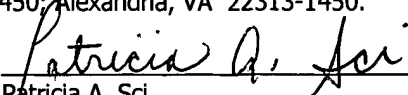
Appeal Brief Under 37 CFR §41.37

Dear Sir:

A Notice of Appeal from the final rejection of Claims 1, 6 and 7, all pending claims, of U.S. Patent Application No. 10/730,581 was submitted on March 20, 2006, and received on March 22, 2006. Applicant accordingly files its appeal brief in connection with its appeal. A Claims Appendix is submitted herewith, as are Appendices related to evidence previously submitted and decisions related to the case.

Mailing Certificate: I hereby certify that this correspondence is today being deposited with the U.S. Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents and Trademarks; Post Office Box 1450; Alexandria, VA 22313-1450.

May 22, 2006


Patricia A. Sci

(i) Real Party In Interest

The real party in interest is Haldex Traction AB, assignee of the patent application.

(ii) Related Appeals and Interferences

There are no related Appeals or Interferences.

(iii) Status Of Claims

Claims 1, 6, and 7 stand rejected and are the subject of the instant Appeal. A copy of each of these claims is attached hereto in the Claims Appendix. Claim 2 is cancelled. Claims 3-5 and 8 are withdrawn.

(iv) Status Of Amendments

There are no pending or unentered Amendments.

(v) Summary Of Claimed Subject Matter

The present invention, as claimed in independent Claim 1, relates to a device that transmits torque between two rotatable, coaxial shaft members (1, 2). Referring to Figures 1 and 5, the device includes a hydraulic system and a clutch (6, 8, 18). The clutch (6, 8, 18) includes a hydraulic piston (18) that is under the control of an electrically controlled throttle or pressure valve (26). The clutch (6, 8, 18) engages the shaft

members (1, 2) and counteracts the rotational speed differential between the shaft members (1, 2). The hydraulic system includes a differential clutch pump (19, 20, 22, 28, 36) that supplies hydraulic pressure to the hydraulic piston (18). The differential clutch pump (19, 20, 22, 28, 36) is driven by the rotational speed differential between the two shaft members (1, 2). The hydraulic system also contains a feeder pump (31) that maintains a certain base pressure in the system. The hydraulic system further includes a means (24, 33, 34) that conditionally allows the flow from the feeder pump (31) past the valve (26) to the hydraulic piston irrespective of the flow from the clutch pump.

Claim 6 is dependent on claim 1 and adds the additional limitation that the hydraulic system has a portion with lines (21) from the differential pump (19, 20, 22, 28, 36), through the electronically controlled throttle or pressure valve (26) to the clutch (6, 8, 18). This portion includes an overflow valve (30) that removes oil supplied by the feeder pump (31) to the reservoir (31). Further, the feeder pump (31) and the differential pump (19, 20, 22, 28, 36) are connected in parallel by a check-valve (24) between the feeder pump (31) and the electrically controlled throttle or pressure valve (26).

Claim 7 is dependent on claim 6 and adds the additional limitation that the overflow valve (30) is connected in parallel over the check-valve (24).

(vi) Issues To Be Reviewed On Appeal

Claims 1, 6 and 7, stand rejected under 35 U.S.C. §102(b) as being anticipated by Lundstrom (WO 97/04245).

(vii) Argument

Claim 1

The Examiner's rejection of claim 1 under 35 U.S.C. §102(b) is improper because Lundstrom does not disclose each and every element recited in claim 1. Specifically, claim 1 requires a hydraulic piston, an electronically controlled throttle or pressure valve, a differential clutch pump that supplies hydraulic pressure to the hydraulic piston, a feeder pump, and means that conditionally allows the flow from the feeder pump past the valve.

Lundstrom is directed to a device for transmitting torque between two rotatable shafts including pistons (55-57), a clutch (12,14), a pump (35), and a throttle valve (38). (Fig. 3, page 8, l. 14-27). Applicant submits that Lundstrom does not anticipate claim 1 because Lundstrom does not disclose a means that conditionally allows the flow from the feeder pump past the valve to the hydraulic piston irrespective of the flow from the clutch pump. The application identifies the embodiment in Lundstrom and indicates that such a means claimed in this invention helps prevent lockup from stationary that occurs in Lundstrom, i.e. there is insufficient hydraulic pressure from the differential pump to engage the clutch. The Examiner's Final Action doesn't identify where this means is located in Figure 3 but only references Figure 3 generally. As can be seen in Figure 3 of

Lundstrom, the hydraulic pressure supplied to piston elements (55-57) is supplied through throttle valve 38. Thus, Lundstrom does not indicate that there is any means that conditionally allows the flow from the feeder pump 36 past the valve 38 to the piston elements 55-57. The only way hydraulic pressure is supplied to the piston elements is through valve 38. As a result, for this reason Lundstrom does not anticipate the claimed invention.

Further, the Examiner maintains that the combination of piston elements 55-57 qualifies as a clutch pump and that this clutch pump is a differential pump. Applicant pointed out to the Examiner that if piston elements (55-57) are considered a differential pump, as suggested by the Examiner, then Lundstrom would still fail to anticipate the claimed invention because it would then lack a hydraulic piston as required by all claims. In response to Applicant's remarks, the Examiner identified cam disc 48 as a piston. Applicant submits that cam disc 48 is not a piston as required by claim 1. Claim 1 requires the clutch pump to supply hydraulic pressure to the hydraulic piston. However, in Lundstrom hydraulic pressure is supplied to piston elements 55-57 and not cam disc 48. For this additional reason, Applicant submits that Lundstrom does not anticipate the claimed invention.

For the reasons explained above, the Lundstrom reference simply does not disclose a hydraulic piston, an electronically controlled throttle or pressure valve, a differential clutch pump that supplies hydraulic pressure to the hydraulic piston, a feeder pump, and means that conditionally allows the flow from the feeder pump past the

valve. Therefore, because the Lundstrom reference does not disclose each and every element of the invention recited in claim 1, the rejection under 35 U.S.C. § 102(b) is improper.

Additionally, Applicant also notes that an alternative rejection under 35 U.S.C. § 103 would also be improper, because the invention of independent claim 1 is not rendered obvious by Lundstrom. In order for the claimed invention to be obvious over the prior art, there must be some suggestion or motivation in the reference to make the relevant modification. See, e.g., *In re Mills*, 916 F.2d 680, 682, 16 USPQ2d 1430, 1432 (Fed. Cir. 1990). There is no such suggestion in the Lundstrom reference to modify the system disclosed to include a means that conditionally allows the flow from the feeder pump past the valve to the hydraulic piston irrespective of the flow from the clutch pump. Lundstrom is directed to a hydraulic system that provides hydraulic pressure to a clutch. However, Lundstrom makes no reference towards a means or ability to conditionally allow the flow from the feeder pump past the throttle valve. In fact, this Application indicates that Lundstrom fails to address the problem of lock up from stationary. Also, Lundstrom further does not indicate that it would be desirable to address such an issue. As a result, Lundstrom does not render a means that conditionally allows the flow from the feeder pump past the throttle or pressure valve to the hydraulic system obvious.

Further, if piston elements 55-57 are interpreted as a pump and cam disc 48 is interpreted as a piston, Applicant submits that one skilled in the art would not be motivated to modify Lundstrom such that hydraulic pressure is supplied to the cam disc 48.

The objective of Lundstrom is to rectify the rotational difference between two co-axial shafts. To do so Lundstrom supplies hydraulic pressure to piston elements 55-57 so as to engage the clutch. Lundstrom does not indicate that the clutch could be engaged by supplying hydraulic pressure to the cam disc 48. Given that Lundstrom achieves its objective by supplying hydraulic pressure to piston elements 55-57, one skilled in the art would not be further motivated to modify Lundstrom such that hydraulic pressure is supplied to cam disc 48. Further, it is uncertain how Lundstrom could be modified to achieve such an effect. As a result, Applicant submits that Lundstrom as interpreted by the Examiner does not render claim 1 obvious.

Claim 6

The Examiner's rejection of claim 6 under 35 U.S.C. §102(b) is improper because Lundstrom does not disclose each and every element recited in claim 6. Specifically, claim 6 adds the additional limitation that a check-valve be disposed between the feeder pump and the electrically controlled throttle or pressure valve. In citing Lundstrom the Examiner does not identify such a check-valve but merely cites Figs. 1 and 3 generally. As can be seen in Figures 1 and 3 of Lundstrom, there is simply a direct hydraulic line between pump 35 and throttle valve 38. There is not a check-valve disposed between pump 35 and throttle valve 38. As result, Lundstrom does not anticipate claim 6.

Additionally, Applicant also notes that an alternative rejection under 35 U.S.C. § 103 would also be improper, because the limitation of claim 6 is not rendered obvious by

Lundstrom. The embodiments shown in Figs. 1 and 3 of Lundstrom all show a check valve incorporated in hydraulic lines that either lead to or from piston elements 55-57. Lundstrom does not disclose the use of check valves in a hydraulic line that is disposed between the pump 35 and the throttle valve 38. Considering that Lundstrom only incorporates check valves in lines that lead to and from piston elements, one skilled in the art would not be motivated to dispose a check valve between a feeder pump and an electronically controlled throttle or pressure valve. Further, Lundstrom does not indicate that a check valve could be utilized in a manner different from that disclosed in Figs. 1 and 2. As a result, one skilled in the art would not be motivated to modify Lundstrom in accordance with claim 6.

Claim 7

The Examiner's rejection of claim 7 under 35 U.S.C. §102(b) is improper because Lundstrom does not disclose each and every element recited in claim 7. Specifically, claim 7 adds the additional limitation that an overflow valve be connected in parallel over the check-valve disposed between the feeder pump and the electrically controlled throttle or pressure valve. In citing Lundstrom the Examiner does not identify such a limitation but merely cites Figs. 1 and 3 generally. As noted above, Lundstrom does not disclose a check-valve disposed between the feeder pump and the electronically controlled throttle or pressure valve. Consequently Lundstrom does not disclose an overflow valve connected in parallel over the check-valve. As result, Lundstrom does not anticipate claim 7.

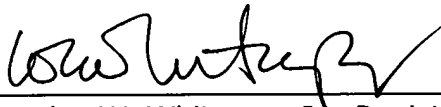
Additionally, Applicant also notes that an alternative rejection under 35 U.S.C. § 103 would also be improper, because the limitation of claim 7 is not rendered obvious by Lundstrom. Since Lundstrom does not disclose or indicate where to dispose a check-valve between pump 35 and throttle valve 38, it is unpredictable whether one skilled in the art would dispose such a check-valve in series with the overflow valve or in parallel. Even if one skilled in the art attempted to dispose a check-valve between pump 35 and throttle valve 38, it seems that one skilled in the art could just as easily incorporate such a check-valve at the positions marked 40 or 37 in Figure 3. Locating a check-valve in either location would be in series with overflow valve 34 and not parallel. As a result, claim 7 is not rendered obvious by Lundstrom.

Conclusion

For all of the foregoing reasons, it is submitted that the claimed invention is patentable over the cited art. Accordingly, it is submitted that the rejection of claims 1, 6 and 7 should be reversed and it is respectfully requested that the Examiner be directed to issue a Notice of Allowance allowing claims 1, 6 and 7.

Respectfully submitted,

May 22, 2006



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**Claims Appendix
to Appeal Brief Under 37 CFR §41.37
Serial No. 10/764,908**

1. A device for transmitting torque between two rotatable, coaxial shaft members, the device containing

a clutch between the two shaft members and engageable to counteract rotational speed differential between the shaft members by means of a hydraulic piston under the control of an electrically controlled throttle or pressure valve,

and a clutch pump for supplying hydraulic pressure to the hydraulic piston, wherein the clutch pump is a differential pump driven by the rotational speed differential between the two shaft members,

wherein the hydraulic piston, the valve, and the clutch pump are connected in a hydraulic system also containing a feeder pump for maintaining a certain base pressure in the system,

characterized by means in the hydraulic system for conditionally allowing flow from the feeder pump past the valve to the hydraulic piston irrespective of the flow from the clutch pump.

6. A device according to claim 1,

in which the hydraulic system in a closed portion comprises lines from the differential pump, through the electrically controlled throttle or pressure valve to the clutch, the portion including check-valves, and in which oil may be supplied by the feeder pump from a reservoir and may be removed to the reservoir via an overflow valve,

wherein the feeder pump and the differential pump are connected in parallel by means of a check-valve between the feeder pump and the electrically controlled throttle or pressure valve.

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7. A device according to claim 6, wherein an overflow valve is connected in parallel over the check-valve.

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**Evidence Appendix
to Appeal Brief Under 37 CFR §41.37
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No evidence of any kind, including evidence submitted under 37 CFR 1.130, 1.131 or 1.132, has been entered by the Examiner and relied upon by Appellant in the appeal.

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**Decisions Appendix
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There are no related Appeals or Interferences. As such, there are no decisions rendered by a court or the Board in any such Appeals or Interferences.